

CEREAL RUST BULLETIN

Report No. 9
July 22, 2003

Issued by:

Cereal Disease Laboratory
U.S. Department of Agriculture
Agricultural Research Service
1551 Lindig St, University of Minnesota
St. Paul, MN 55108-6052
(612) 625-6299 FAX (651) 649-5054
markh@umn.edu

For the latest cereal rust news from the field, subscribe to the cereal-rust-survey mail list. To subscribe, send an email message with the word *subscribe* in the message body (not subject line) to: cereal-rust-survey-request@coafes.umn.edu

Reports from this mail list as well as all Cereal Rust Bulletins are maintained on the CDL web page (<http://www.cdl.umn.edu/>).

- • Wheat leaf rust in the northern plains is increasing in severity on spring wheat cultivars.
- • Viable wheat stripe rust is still present in the northern Great Plains.
- • Oat stem rust and oat crown rust is common in upper Midwest fields.
- • Stem rust is common on many wild grasses in southeastern Minnesota.

The small grain harvest has commenced from southwestern New York to South Dakota. Winter wheat is in good condition and at normal maturity throughout much of the U.S. In the northern small grain area, most of the spring-sown grains are in good condition and slightly behind normal crop development.

Wheat stem rust. In mid-July, traces of wheat stem rust were observed on the susceptible spring wheat cultivar Baart in south central Minnesota plots. The incidence of wheat stem rust infections have been lighter than normal in the northern Great Plains since little wheat stem rust developed in the southern and central U.S. this year. Also, all of the current spring wheat cultivars are resistant to the current race population.

Wheat leaf rust. In mid-July, 20-40% wheat leaf rust severities were observed on flag leaves of spring wheat cultivars in fields from southeastern North Dakota, northwestern South Dakota to southwestern Minnesota. Many wheat fields have been sprayed with fungicide to prevent losses due to rust. This year leaf rust is severe and concentrated in the upper Midwest. Rust inoculum arrived from the south in late May and early June with rain showers and temperature and moisture conditions have been good for infection and spread of leaf rust. The spring wheat cultivars currently grown have less effective resistance to leaf rust than those that were popular 10-15 years ago. In early July, 20 to 40% leaf rust severities were observed on susceptible cultivars in plots and traces to 10% in winter wheat fields in southwestern and south central Ontario, Canada.

Wheat stripe rust. In mid-July, 40% stripe rust severities were found on flag leaves in some wheat fields at the early berry stage in southeastern North Dakota. The rust pustules on the leaves were still sporulating, since the nighttime temperatures have been less than 60 F in that area.



In early July, stripe rust severities ranged from trace to 10% in southwestern Ontario winter wheat fields. In winter wheat trials at Ridgetown College severities ranged from trace to 5% severities but some cultivars such as Sisson had upwards to 30% severity.

Oat stem rust. During mid-July, traces to 10% severities of oat stem rust were found in fields and plots at the late berry maturity growth stage throughout southern Minnesota. Oat stem rust infections are scattered throughout the northern oat-growing area. Inoculum arrived from locations further south in late May and early June with the frequent rains. The recent temperatures have been good for rust development. Most current oat cultivars are not highly resistant to stem rust.

Oat crown rust. During the third week in July, trace to 60% oat crown rust severities were found in fields and plots at the late berry maturity growth stage throughout southern Minnesota. Much of the primary inoculum originated from buckthorn, the alternate crown rust host, common throughout the Upper Midwest. Conditions have been good for crown rust development throughout much of the oat growing area in Minnesota and Wisconsin.

Barley stem rust. The first reports of barley stem rust this year were trace severities in plots of susceptible two-rowed cultivars in plots in southern Minnesota. This year stem rust has not been found on wild barley (*Hordeum jubatum*). In previous years stem rust was easily found on wild barley in the northern Great Plains

Barley leaf rust. In early July, traces of barley leaf rust were reported on lower leaves in susceptible spring barley plots in southern Minnesota and in field in southeastern North Dakota.

Stripe rust on barley. There have been no new reports of barley stripe rust since CRB #7.

Barley crown rust. In mid-July, traces to 40% severities were observed in plots in west central Minnesota. The plots were near a shelterbelt that included common buckthorn with many old crown rust infection sites. In mid-July, traces of crown rust were found in barley plots in southern Minnesota.

Rye leaf rust. By mid-July, trace to 1% severities of leaf rust were found on upper leaves of spring rye in plots in southern and west central Minnesota.

Rye stem rust. There have been no reports of rye stem rust this year.

Stem rust on barberry. There have been no new reports of stem rust on barberry since CRB #7.

Other stem rust grass hosts. By mid-July, 5-40% stem rust severities were observed on quackgrass (*Elytrigia repens*), redtop (*Agrostis alba*), and timothy (*Phleum pratense*) in southeastern Minnesota.



Fig. 1. Leaf rust severities in wheat fields - July 22, 2003

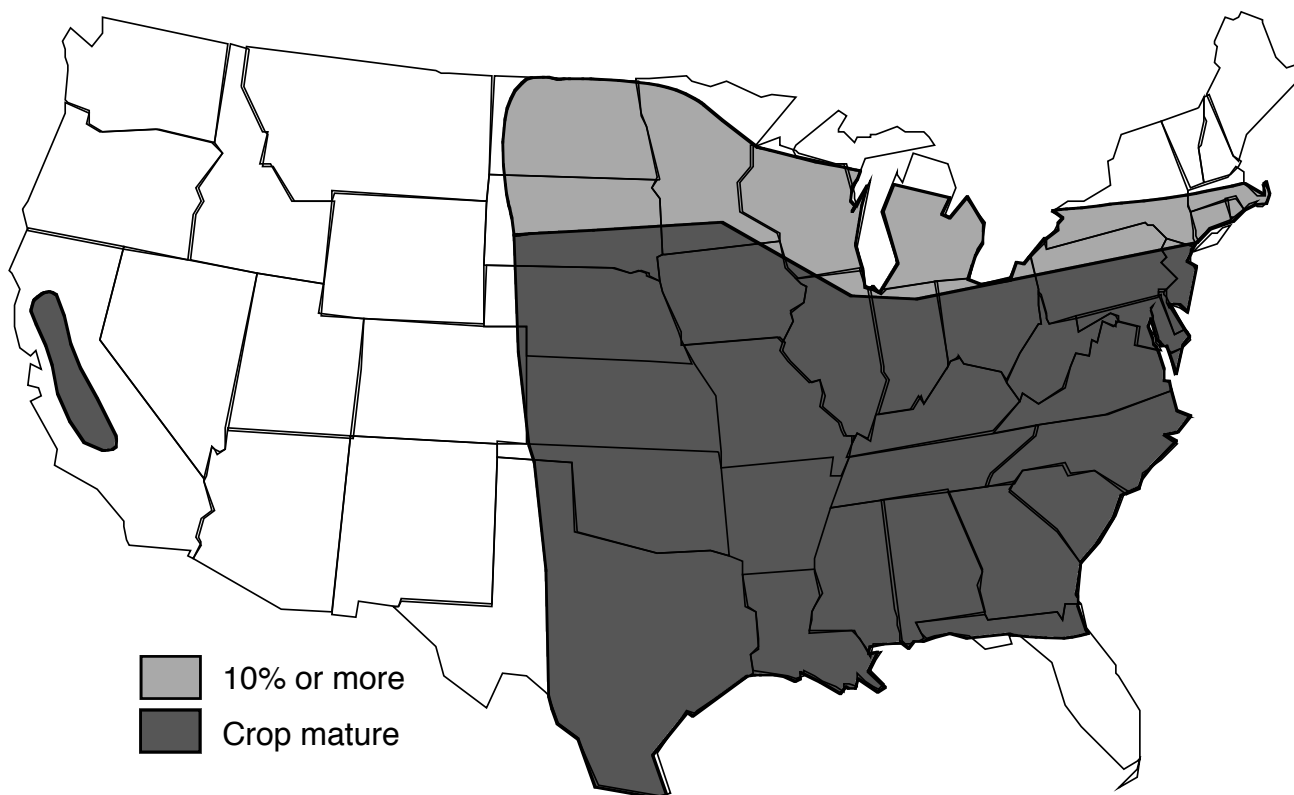


Fig. 2. Stripe rust severities in wheat fields - July 22, 2003

